cannot provide for accessibility through the contracting and purchasing processes – a patent absurdity. The manufacturer must bear full responsibility for its product. This does not mean that others are not responsible under Section 255. In the ADA Title III, context, most courts that have considered similar issue concluded that anyone who plays a significant role in the design or construction of a facility is held responsible for ensuring accessibility. The same should be true here. That ensures that gaps in coverage are not created by finger-pointing (I had no control, that person did). The position raised by some commenters ensures the law will not fully protect individuals with disabilities.

III. THE COMMISSION HAS AND SHOULD RETAIN BROAD AUTHORITY TO RECEIVE AND REVIEW COMPLAINTS, AND TO WORK CREATIVELY TO FOSTER ACCESSIBILITY.

The NPRM properly proposed a method for filing and addressing complaints that was designed in part to make it relatively simple to address accessibility issues. In addition, the Commission asked whether it would be wise to establish a clearinghouse for information about accessibility. Many of the commenters have asked the FCC to establish more rigid rules that would limit complaints under Section 255, and discouraged establishment of an information clearinghouse. AFB believes that the Commission was on the right track.

A. The Commission Should Not Adopt Strict Standing Standards.

Several commenters urge the Commission to adopt rules that would prevent persons from filing complaints unless the persons were disabled, or representing individuals with disabilities. The Commission should not adopt standing requirements. The main reason proffered for developing standing requirements is to discourage competitors from using the complaint process to obtain information about competitors' products or processes. However, that problem can be addressed on a case by case basis, if a manufacturer believes a particular complainant has no particular interest in filing a complaint. As AFB pointed out in its initial comments, there are a wide range of organizations that may have a legitimate interest in filing complaints. Employers

have independent ADA obligations; they may have an interest in filing complaints because the availability of accessible communications devices may help them satisfy their own obligations. Indeed, we suspect that allowing employers to file complaints may be the one of the best ways to encourage compliance. As AFB also pointed out, there may be cases where one manufacturer or service provider could provide accessible equipment or services, but cannot because another company has failed to meet its obligations. Allowing companies to file complaints will actually allow the Commission to determine who is responsible for inaccessibility, and may avoid unnecessary consumer complaints. Thus, consumers, other manufacturing and service companies, employers, and non-profit organizations representing any of these groups have legitimate interests in assuring that Section 255 requirements are satisfied. Accordingly, adoption of a standing requirement as proposed by commenters at this juncture would be ill-advised.

It is not legally required. Typical standing cases involve instances where Congress has restricted the universe of parties who may file a complaint. In the absence of a Congressionally-mandated standing requirement, the most that is required is that complainant have an interest in the dispute. The Commission's decision not to impose a specific standing requirement merely reflects the obvious point that there are many people (besides individuals with disabilities) who have an interest in assuring that services and equipment are accessible. These not only include the associations, industries, manufacturers and others discussed above. It also includes the friends, relatives and colleagues who may wish to communicate with individuals with disabilities. It was therefore entirely appropriate for the Commission to ensure that all those who benefit from the effective implementation of Section 255 have the opportunity to file complaints.

B. The Commission Could Adopt a "Statute of Limitations" On Filing Complaints, But It Would Have To Be Carefully Tailored, and Is Probably Unnecessary.

Several commenters proposed that the Commission adopt a statute of limitations on product complaints. However, the comments fail to recognize that there may be very good

reasons why a complaint is filed long after a product is purchased. For example, a manufacturer may offer an upgrade to existing equipment where the upgraded functions are not themselves accessible, or where the upgrade renders existing functions inaccessible. The Commission's regulations need to recognize that accessibility issues may develop during the life of a piece of equipment.

Any limitations period would have to apply (a) from the time the consumer purchased the product; (b) to a product that has not been affected by any company upgrade or alterations; (c) that has not been affected by any change in networks, other equipment or services. It would have to be for a period that is long enough to allow the consumer to gain familiarity with the device, and to determine, without filing a complaint, whether it is useable or not. As a practical matter, however, it is not clear that a limitations period is actually necessary. The concerns of the manufacturers could largely be satisfied, and the Commission could avoid foreclosing legitimate complaints, by requiring a complainant who files more than two years after a piece of equipment is purchased to explain why the filing was delayed.[47] This may focus the complaint and result in "weeding out" truly frivolous complaints.

C. The Commission Should Establish An Information Clearinghouse.

For reasons that are not entirely clear, several commenters oppose any efforts by the Commission to establish a compliance clearinghouse. We believe that a clearinghouse should be established. The information provided by the Department of Justice at its website provides critical information both to companies that are seeking to understand their obligations, and consumers who wish to understand their rights. Having a clearinghouse for Section 255 information generally available will allow the Section 255 process to function more smoothly over the long haul.

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[47] At least one commenter asked the Commission to adopt a six-month statute of limitations. That would be self-defeating, since it would mean that a person would almost always have to file a complaint to preserve legal rights, rather than attempt to resolve issues informally outside the Commission's processes.

D. Damages Are An Important Compliance Tool and Are Available.

In its NPRM, the Commission tentatively concluded that damages were available to remedy failures to comply with Section 255. Several commenters – most notably Ameritech – argue that damages are not available under the Section 255, because that Section 255(f) ("No Additional Private Rights Authorized") states that "nothing in this Section" shall be construed to authorize a private right of action to enforce any requirement or regulation. The Commission was right. The "no private right of action" language appears intended to prevent the courts from implying that individuals with disabilities have an independent right to commence a court action under Section 255, but both the title of the Section (referring to additional rights) and the language of the section (referring to nothing in "this Section" rather than nothing "in this Act") indicate that Congress did not intend to limit other existing remedies, including damage remedies. Thus, Section 206, 207 and 209 of the Communications Act make carriers liable for damages for violation of the Act, permit complaints to be filed with the Commission, and permit the Commission to award damages based on those complaints. Contrary to Ameritech's argument, these provisions provide ample authority for the award of damages to persons injured by violations of Section 255.[48]

E. The Burden of Proof Must Fall Upon Equipment Manufacturers and Service Providers.

Some commenters would place the burden of proof under Section 255 on the complainant.[49] This is clearly inconsistent with the statute, and it is impractical as well. Under the statute, the legal mandate is for accessibility -- the "readily achievable" standard is a defense against a failure to provide accessible equipment and services. To put it another way, it is not up to the individuals with disabilities to prove that he or she is entitled to accessibility; it is up to

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[48] *See also*, Section 414 (remedies in the Act are not exclusive, and are in addition to remedies existing at common law and by statute). In addition, any limitations of Section 255 do not apply to Section 251(a)(2), as AFB explained in its initial comments.

[49] *See, e.g.*, MTA Comments at 20-21.

manufacturers and equipment providers to provide accessible services and equipment unless access is not readily achievable.[50] This result is logical. Whether accessibility is readily achievable will be determined on a case by case basis, considering factors unique to each manufacturer or service provider. It is only the manufacturer and the service provider that will be in a position to show that accessibility was not readily achievable, and it is therefore on those entities that the burden of proof should fall. Any other approach will render Section 255 a dead letter, because (except in the most obvious cases) complainants cannot be expected to be able to show what is and what was not readily achievable.

As a related matter, several commenters ask the Commission to adopt an inordinately complex cost standard for determining whether accessibility is readily achievable. It is not even clear that the analyses that are proposed (consideration of opportunity costs, for example) could actually be performed in any sensible way, since the analysis by definition depends on untestable assumptions about consumer responses to products that have not been built and exposed to the marketplace. In any case, the standards the industry has proposed require the Commission to undertake an analysis at least as complex as that involved in rate of return ratemaking – and that process is hardly designed to lead to rapid resolution of complaints.[51] As AFB has proposed in its initial comments, the FCC must adopt standards that it can apply; the standards that the industry has proposed cannot be applied, and certainly cannot be applied in any manner that would result in accessibility within a reasonable period of time.

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[50] The readily achievable standard has been consistently read in other contexts to place the burden on the affected company to show that providing accessible accommodations was not "readily achievable."

[51] TIA, at n. 30 of its comments, argues that the Commission should not consider net costs (costs of the accessibility features, minus benefits received through its incorporation) because benefits are purely speculative. Whatever the validity of this criticism, it is evident that the inclusion of the cost factors listed by industry are even more speculative, since those factors depend on assumptions as to the marketability and profits of products that were never even created.

IV. ADOPTION OF THE ACCESS BOARD GUIDELINES AND CONTINUED EXAMINATION OF CURRENT REGULATORY AND STATUTORY REQUIREMENTS PERTAINING TO INFORMATION SERVICES ARE CRITICAL TO PROVIDING ACCESSIBILITY.

A. Adoption of the Access Board Guidelines Will Encourage Innovation and the Free Flow of Product Information.

As a more general manner, industry has argued that if the FCC adopts the rules proposed by the Access Board, as proposed in the NPRM, innovation will be stifled and product information will not freely flow.

As the comments suggest, there is no reason to suppose innovation will be stifled. While the guidelines require industry to take a new approach to design, the actual language of the guidelines encourages innovation. Moreover, because the obligations are clear (unlike the guidelines that TIA has proposed as an alternative) they should encourage development of new products that incorporate accessibility features as a matter of course, as opposed to efforts to create segregated and specialized equipment.

There is also no reason to suppose that the free flow of information will be discouraged. TIA seems to posit that only under its guidelines would a manufacturer advertise that a product is accessible by promoting its access features. Why this is so hard to discern. Under the Access Guidelines, one could advertise the accessibility features that do exist (accessible for the hearing impaired, etc.), but could not make broad claims about universal accessibility. That is, information would have to be provided in a meaningful format. To put it another way, the Access Board guidelines not only provide a useful model for planning a product, the guidelines provide a useful way for consumers and manufacturers to describe product features.

B. To Provide Continuing Protection for the Disabled, the Commission Does Need to Continually Reexamine Its Treatment of Information and Telecommunications Services.

In its working paper, "Digital Tornado: The Internet and Telecommunications Policy" the Commission pointed out that public policy questions arise from the need to maximize the public

benefits that the Internet brings to Society.[52] The paper goes on to state: "Government policy approaches toward the Internet should therefore start from two basic principles: avoid unnecessary regulation, and question the applicability of traditional rules."[53]

We believe that the paper is on the right track and the Commission should continue this examination...including its examination of the relation of the Internet and telecommunications services. One example of the new direction for telecommunications services is illustrated in a recent report that British Telecom and AT&T will abandon circuit switching in favour of a system called internet protocols (IP). This is a method of transmitting data efficiently and at high speed without tying up any particular pathway. ..."IP has established itself as the key design point or architectural force for the 21st century network the partners say." The article continues: "With the new network in place, staff could have access to the same services anywhere in the world simply by plugging into a phone socket and dialing a local number."[54]

It is the seamless nature of the new regime of telecommunications services which will allow this example to work so well. The observations about these services in the comments filed by representatives of the disability community make the continuation of the Commission's task even more urgent, especially within the context of Section 255. SHHH points out that:

> As services merge, the distinctions between enhanced, basic and adjunct to basic are superficial at best. Communication via technology, in whatever form, whether phone calls over the internet or e-mail received on a phone handset, must be governed by Section 255 if access is to be achieved in the manner it was intended.[55]

The National Association of the Deaf correctly asserts:

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[52] "Digital Tornado: The Internet and Telecommunications Policy," Federal Communications Commission, Office of Plans and Policy (March, 1997) at p. ii

[53] Id.

[54] Cane, Alan, The Financial Times, "Trying to Connect You"(July 28,1998) p. 13.

[55] *Comments of the Self Help for Hard of Hearing People*,WT Docket No. 96-198.

> ...it cannot be more obvious that access to advanced service features is basic in purpose and use for individuals with disabilities. This holds true for interactive and audiotext telephone services as well as for other services labeled as enhanced such as voice mail and electronic mail.[56]

Communications technologies have converged or are converging into powerful, multi-purpose and flexible telecommunications devices and services. These devices combine numerous communication and information storage functions previously accomplished separately. The ability to use this technology is rapidly becoming the new literacy challenge for people who are blind or severely visually impaired. The Commission will not be able to separate these functions, and does not need to do so. The mandate to ensure that "telecommunications services," "telecommunications equipment" and "customer premises equipment are accessible provides ample authority for protecting individuals with disabilities as AFB and others in the disabilities community have pointed out. It is critical that the Commission exercise that authority.

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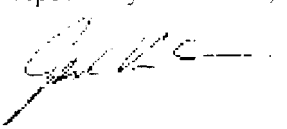
[56] *Comments of The National Assocation of the Deaf*, WT Docket No.96-198.

CONCLUSION

The NPRM properly proposed to adopt Access Board Guidelines and to establish other rules designed to implement Section 255's mandate. That mandate requires affirmative action to ensure that products and service are accessible to individuals with disabilities. While the NPRM needed to be strengthened, as AFB and others pointed out in initial comments, it was headed in the right direction. In many respects, the modifications proposed by industry would effectively render Section 255 meaningless. Those proposed modifications must and should be rejected.

Respectfully submitted,



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June 30, 1998

APPENDIX A

REPORT OF LEONARD R. KASDAY, Ph.D
ON TIA COMMENTS FILED IN
RESPONSE TO NPRM IN WT DOCKET 96-198

BACKGROUND OF DR. LEONARD KASDAY

Dr. Kasday is an engineering specialist at the Institute on Disabilities/UAP at Temple University. He previously had 20 years experience in user interface design at AT&T (AT&T Labs, Bell Labs, and American Bell), where he worked on Internet services, web accessibility standards, telecommunications relay service, VRML data display, speech controlled communication systems, artificial intelligence, medical picture and data communication, rapid prototyping, and office automation. He is chair of the Evaluation and Repair Interest Group in the World Wide Consortium's Web Accessibility Initiative. Dr. Kasday received his Ph.D. and Physics and M.S. in Electrical Engineering from Columbia University, and pursued 5 years of post-doctoral research in Experimental Psychology at Columbia University and New York University. He holds 9 patents in the areas of user interface, communication, and disability related technology.

SUMMARY OF REPORT

As noted in the FCC NPRM, there is a wide range of opinions on whether Section 255 should apply to particular products or to groups of similar Products. TIA and others have argued that it should apply across a product line.

In my opinion, 255 should apply to individual products, in view of the following considerations:

1. New technology trends which, if properly exploited, would greatly reduce the cost of accommodation.

2. The many cases where the effort is minimal because of the simplicity of the accommodation.

3. The reduced time to investigate one a product once results of investigating other, similar products have been obtained.

4. The many disadvantages of having just a few isolated accessible products.

5. The additional problems caused by combining a product line approach with TIA's proposed accessibility test.

6. The additional problems caused by combining a product line approach with a "retrospective" approach to accessibility.

Note also that the additional factors mentioned in items (5) and (6), viz. TIA's proposed Accessibility test, and the "retrospective" approach to accessibility, are problems in themselves, as discussed below.

DISCUSSION

I'll now discuss these points in more detail.

1. New technology features which, if properly exploited, reduce the cost of accommodation.

Accommodation is often discussed as if accommodating each new product is a new, individual effort, making it necessary to restrict accessibility to just one or a few members of a product line. This is countered, however, by a number of relevant trends, most of which have long existed in personal and laptop computers, and which are appearing in devices even as small as pagers.

a. Programmability.

Devices are being designed with spare memory (either battery powered RAM, or Flash memory, which requires no power for storage). Accessibility features can potentially be loaded into this memory, eliminating the need to add memory, cost, and battery drain to the base version (i.e. non-accommodated version) of a device (although a person with a disability may want to add memory to load other programs). Thus, the interaction of access features with memory and battery life for the base product is eliminated. Programmability is of course inherent in all desktop and laptop personal computers. It is also appearing or planned to appear in platforms suitable for smaller devices such as personal digital assistants, cell phones, and pagers. One of these systems, Sun Microsystems' Java, provides a "pluggable look and feel" which, as they point out, could allow, e.g., an audio menu to replace a visual one (a feature of potential value to non-disabled users as well). Other programmable systems such as Palm Pilot, Windows CE, Psion, and Motorola's FLEX, have also designed to range of user needs (although accessibility has not been explicitly addressed). For example, Motorola's FLEX platform Whitepaper (v.1.0, September 1997, p.5), speaks of "the needs of specific individual lifestyles" and describes the FLEX system as

> "designed specifically to enable `soft' products that can be easily upgraded
>
> to meet these user needs while at the same time being optimized for small communicators."

We have therefore the opportunity to extend this approach to accommodate the needs of many people with disabilities, in a readily achievable manner, without compromising the features needed to manufacture competitive devices, or restricting access to just a few members of a product line.

b. Multimedia capability.

Many desktop and laptop computers, as well as platforms for smaller devices (e.g. Java, Windows CE) have audio input and output built in. This permits some degree of speech recognition and text to speech to be added via software alone, without the cost of adding specialized "speech chips". General text to speech and speech recognition devices are already commonly available in desktop and laptop computers. It should be possible to add at least simple recorded speech to small devices (e.g. the numbers 0 through 9). This minimizes the need to restrict access to just a few "speech capable" members of a product line.

c. Communication between devices.

Communication between devices, using serial cables and infrared links (e.g. using the IRDA standard) are becoming more widespread. Both are common in desktop and laptop models, and IRDA is already appearing in many smaller devices (e.g. Java, Nokia, Windows CE, FLEX). These links could potentially provide an interface to accommodation devices for compatibility (as required by the Access Boards Connectivity requirement 1193.51). It would also permit audio output without audio speaker jacks (an accommodation which, in Motorola's experience, can add significantly to production cost). For example, digital speakers are already available which connect to the USB (Universal Serial Bus). Suitable modulation of an infrared output would also drive the IR wireless headphones now available in the consumer market.

d. Standardized user interface objects.

Software platforms typically provide the software developer with a standard set of user interface "objects" such as menus, text entry fields, etc. Once these objects are made accessible, applications using the objects gain accessibility with little or no additional effort. Microsoft's "active accessibility" (AAA) provides a software interface between the objects and accessibility software such as screen readers. AA is available in their desktop and laptop versions of Windows 95, 98, and NT (although it is not now available for the CE version used in smaller devices). Sun's Java System has such an interface built-in, plus, as noted above, a means for "direct accessibility" by allowing the objects to be realized in various ways, e.g. a menu could be rendered visually or audibly.

I've discussed these objects in the context of programmable devices; but their use is simply good engineering practice which can be expected in non-programmable devices as well.

The existence of these user interface objects counters the argument that providing access for each individual product is a new, individual effort. Once standard software objects are used and accessibility is provided for those objects, all products inherit the access features with little additional work.

It is crucial therefore for accessibility of user interface objects to be built in to all platforms. It should include means to interface to accessibility software and hardware, and also options for direct accessibility.

e. Preferences.

Software platforms typically have facilities for users to set standard preferences (e.g. colors, font size), plus preferences specialized to an application. This also reduces the cost and effort needed to provide settings needed for accessibility. And the provision for adding application specific preferences would reduce the software overhead needed to e.g. disable or change timeouts.

Another way to control preferences is available if updates to a program are available via download e.g. into Flash memory. The user could download different versions (e.g. with timeouts disabled). This would eliminate the need to have a way of changing preferences on the device.

The flexibility offered by the ability to set preferences minimizes the need to restrict access to a limited number of products in a product line.

2. Many cases where the effort to include accessibility is minimal because of the simplicity of the accommodation.

I'll now discuss some additional objections to the arguments about the cost and difficulty of accessibility. These do not depend on the technology trends mentioned above.

Manufacturers are understandably concerned about accommodations that require extra memory or other chips to a very small device, such as speech recognition and synthesis (although, as noted above, these capabilities can be added to some systems with no extra hardware at all).

But some design efforts are surely often quite small, e.g. a nib on the 5 key or options to turn off flashing and timeouts, which should require only a minimal amount of code.

And there are other accommodations which don't appear in the table which would have negligible impact on design efforts. For example, to accommodate people who are blind, if a device has a strip of membrane buttons which a blind person cannot detect, the device's case can be molded with a raised border around the button strip and dots or other tactile cues marking each button. Or if the device is toggled on and off by a button that normally beeps only once when pressed, the device could be made to beep twice when toggled on. To accommodate people with vision impairments, labels could be designed with high contrast to be more easily seen, either directly or through a magnifying lens.

To accommodate people who are deaf, if a device already has a screen or visual indicator (e.g. LED), audible signals (e.g. error beeps) emitted during operation can be accompanied by a visual indication. To accommodate people with limited dexterity, simple software features can be provided that e.g. turn off autorepeat or allow someone to press two buttons sequentially instead of simultaneously.

All these accommodations would have little or no interaction with the attributes of cost, size, part count, battery life, etc. All they require is to consider and incorporate low cost or no-cost features or design decisions:

a. in the physical design (e.g. tactile features in the molding)

b. in the software.

The software features are particularly inexpensive when the trends described in section 1 above (programmability etc.) are available, and would be of minimal cost even when the device is hard-coded (e.g. providing an extra beep).

Of course, the impact of these features must still be accounted for, and systematic approaches like the interaction matrix suggested by Motorola can be useful representations of the interactions. But it must be kept in mind that many interactions, like the ones described above, are orders of magnitude smaller than the types of interactions, like adding speaker recognition or synthesis, that cause the greatest concern.

3. Knowledge gained investigating accommodations for one product will lessen the time to investigate the next product, especially if the products are similar.

This point was made above in connection with the use of standard user interface objects in software design. The point is more general. Experience and knowledge gained investigating accommodations for one product will generally carry over to other products. Arguments that imply that effort must be duplicated for each product investigated don't take this into account.

4. The disadvantages of having just a few isolated accessible products.

TIA and others argue for a product line approach to compliance. Motorola, for example, asserts that some products are inherently more suitable to particular disabilities. This is indeed sometimes true. It does not therefore follow, however, that only the products thought to be most suited for a disability need to accommodate that disability.

There are a number of disadvantages to limiting accommodation in this way:

a. Providing different products for different disabilities fails to accommodate people who have more than one disability.

b. The provided product could tend to be a more expensive model, having features like speech storage or synthesis, which aren't always needed for accommodation. For example, a manufacturer might have an inexpensive wireless phone with the on/off toggle feature, described earlier, that only requires an extra beep to make it accessible. However, instead of simply adding that beep to the simple model, the manufacturer would require the blind consumer to buy a more expensive, deluxe model that had e.g. recorded speech prompts for all functions.

c. If there are different models in a product line, they are tailored to differing user needs, including needs unrelated to disability. Adapting only one model for each disability deprives the disabled customer of the choices available to other consumers.

d. An employer, e.g. a small business, that already had equipment for employees that didn't happen to accommodate a new employee, would have to buy new equipment to accommodate the disabled employee. It might also add to the cost of supporting the disabled users, since they would have a different models, and would require different training. Special procedures might also be needed for the disabled employee because she or he would be using a device with different capabilities.

e. A non-disabled person, who became disabled, and who already owned equipment would incur the cost of buying new equipment if the model he or she already owned didn't happen accommodate his or her disability.

f. A person visiting e.g. a hotel that provides telecommunications in guests' rooms would be less likely to find that the equipment met his or her needs. Thus, offering only one accommodated product model per product line to accommodate disabilities has many disadvantages compared to making all models as accessible as can be readily achieved.

5. Additional problems created by TIA's proposed accessibility test.

The FCC NPRM (paragraph 73) proposes to define accessibility

> "in the broad sense to refer to the ability of persons with disabilities to actually use the equipment or service by virtue of its inherent capabilities and functions."

In the context of this definition, the recommended functions in the Access Board Guidelines (NPRM paragraph 74) are "part" of the definition (paragraph 75).

TIA, in contrast, proposes to use the Access Boards guidelines

> "to identify those product features that enhance the accessibility of products for persons with disabilities."

It appears that with this approach, the manufacturer simply notes the features, and leaves it up to the consumer to decide if the product will be accessible.

There is indeed value in providing the consumer with information in this way. However, this is not sufficient.

One problem with this approach is that it only requires, for each function, that there be one mode in which the requirement is provided, and it examines modes independently. For example, it requires one mode with controls that are accessible to people with low vision, and at one mode in

which the information display is accessible to the same people. But the modes are not necessarily required to be the same or to work in conjunction. So a person with low vision might find that while the display was accessible in one mode, the controls were accessible only in another mode. So the device would be unusable by people with low vision, even though it would seem accessible when the TIA's accessibility methodology was applied. In addition, this approach does not address the needs of people who have more than one type of disability. The difficulty would be compounded if this definition of accessibility were to be combined with a product line approach to accessibility. Taken together, these could lead to patchwork of accessibility features, where one feature is found in one mode of one product, a second feature is found in another mode of that product, and a third feature is found in a different product altogether. It could well be difficult for the user to find a full set of access features working all together in a single mode of a single product. And even if the user did find the right combination in a product, it might not be a product that met his or her other needs as well as a different member of the product line.

Another difficulty with this approach is that once a manufacturer found a mode of a product providing a function, that manufacturer would no longer be incented to examine other products for the same function. This means that very simple opportunities for access, like an extra beep or a raised dot, which could make the difference between a product being usable or not, would never be found.

Therefore, it is not sufficient to simply "check off" features or consider them in isolation. Actual usability by persons with disabilities must be evaluated, as proposed in the FCC NPRM, and all products must be examined.

6. <u>The additional problems caused by combining a product line approach with a "retrospective" approach to accessibility.</u>

Products and product features developed for the general market are sometimes useful to people with disabilities, even though there was no consideration of access when the product was designed. Companies often look retrospectively at existing products to identify, document, and publicize such features. These are valuable efforts, which should be applauded. However, we must be careful to avoid relying on this "retrospective" type of accommodation. It would compound the problem noted above of a patchwork of access features across product lines and product modes. Features emerging from a retrospective study are likely to be even more randomly distributed, and less likely to appear together in a single mode of a single product.

For example, consider a caller id with speech announcements included for the convenience of sighted users. The device could easily be unusable for lack of a feature that told the user when it was on or off, even though other products made by the same manufacturer had that needed feature. This is an example of an accommodation of negligible cost that would likely become obvious in the simplest usability study, but that could easily be missed using the procedures TIA proposes.

The full and detailed information that TIA proposes to give the customer would be valuable. However, it is not sufficient: access must be considered throughout the product development cycle and the criterion for success must be actual usability, as the FCC NRPM states.